

IN THE CLAIMS

Please **CANCEL** claims 1-20 without prejudice or disclaimer of any of the subject matter claimed therein and **ADD** new claims in accordance with the following:

21. A method for determining parameters of a technical system to determine output signals from a set of superimposed, statistically mutually independent input signals, in which the parameters, which are elements in an unmixing matrix, by which the set of superimposed input signals are multiplied, and by which the output signals are formed, are determined by optimization of a statistical independence of the output signals, said method comprising:
repeatedly performing a time-delayed decorrelation calculation to determine intrinsic values in the unmixing matrix until cross-correlations are substantially minimized; and carrying out cumulant minimization, with the intrinsic values determined by a final time-delayed decorrelation calculation being used as start values for the cumulant minimization.

22. The method as claimed in claim 21, in which the parameters are determined using an iterative method.

23. The method as claimed in claim 21, in which the cumulant minimization is carried out by training a neural network.

24. The method as claimed in claim 21, in which, during the optimization of the parameters of the unmixing matrix, at least one diagonal parameter in the unmixing matrix is set to a predetermined value.

25. The method as claimed in claim 21, in which the unmixing matrix is limited to a finite impulse response.

26. The method as claimed in claim 21, in which the unmixing matrix is stabilized by projection on to a unit circle during the cumulant minimization process.

27. The method as claimed in claim 21, used for separation of superimposed, statistically mutually independent input signals.

28. The method as claimed in claim 21, used for separation of superimposed, statistically mutually independent, acoustic input signals.

29. A system for determining parameters of a technical system to determine output signals from a set of superimposed, statistically mutually independent input signals, comprising:

5 a processor to determine the parameters, which are elements in an unmixing matrix, by which the set of superimposed input signals are multiplied, and by which the output signals are formed, by optimization of statistical independence of the output signals, through repetition of a time-delayed decorrelation calculation to determine intrinsic values in the unmixing matrix until cross-correlations are substantially minimized, and cumulant minimization, with the intrinsic values used as start values for the cumulant minimization.

30. The system as claimed in claim 29, in which the processor is set up in such a manner that the parameters are determined using an iterative method.

31. The system as claimed in claim 29, further comprising a neural network to perform the cumulant minimization after training.

32. The system as claimed in claim 9, in which the processor is set up in such a manner that, during the optimization of the parameters in the unmixing matrix, at least one diagonal parameter in the unmixing matrix is set to a predetermined value.

33. The system as claimed in claim 29, in which the processor is set up in such a manner that the unmixing matrix is limited to a finite impulse response.